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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,360	03/10/2004	Marc Alan Herwald	2003-0837.02	4342

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EXAMINER

UHLENHAKE, JASON S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/797,360	Applicant(s) HERWALD ET AL.	
	Examiner Jason Uhlenhake	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 0606.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 13, 15-18, 24, 36, 38-43, 45 and 46 is/are rejected.
- 7) ☒ Claim(s) 2-12, 14, 19-23, 25-35, 37, 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 18, 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikeda et al (U.S. Pub. 2004/0155923).

Ikeda et al discloses:

- ***regarding claims 1, 18, and 24***, a belt holder (59) attached to said carrier drive belt; and an isolator (71) coupled between said belt holder (59) and said printhead carrier, said isolator (71) being configured to provide directionally dependent filtering of vibrations propagating to said printhead carrier (Figures 3 – 4; Abstract; Paragraphs 0023, 0051, 0054)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (U.S. Pub. 2004/0155923) in view of Ikeda (U.S. Pub. 2003/0048325).

- **regarding claims 13, and 36**, Ikeda et al discloses the claimed invention except for an asymmetrical isolator. It would have been an obvious matter of design choice to make the isolator an asymmetrical shape, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Daily*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)

Ikeda et al ('923) discloses the claimed invention except for the following:

- **regarding claims 13, and 36**, an isolator and the printhead carrier defining a receptacle for receiving the isolator, said printhead carrier having a latch for engaging a latch slot formed in said isolator to retain said isolator in said receptacle

Ikeda ('325) discloses:

- **regarding claims 13, and 36**, an isolator (61) and the printhead carrier defining a receptacle for receiving the isolator (61), said printhead carrier having a latch (59a) for engaging a latch slot (61a) formed in said isolator (61) to retain said isolator in said receptacle (Figures 5-6; Paragraphs 0043, 0045), for the purpose of attenuating vibrations from a driving source.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of an isolator and the printhead carrier defining a receptacle for receiving the isolator, said printhead carrier having a latch for engaging a latch slot formed in said isolator to retain said isolator in said

receptacle as taught by Ikeda ('325) into the device of Ikeda ('923), for the purpose of attenuating vibrations from a driving source.

Claims 15, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (U.S. Pub. 2004/0155923) in view of Allen et al (U.S. Pub. 2002/0153467)

Ikeda et al discloses the claimed invention except for the following:

- ***regarding claims 15, and 38***, isolator being made form multiple materials having different stiffness properties

Allen et al discloses:

- ***regarding claims 15, and 38***, isolator being made form multiple materials having different stiffness properties (Abstract; Paragraph 0007), for the purpose of the controlling and minimizing the effects of shock and vibration.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of isolator being made form multiple materials having different stiffness properties as taught by Allen et al into the device of Ikeda et al, for the purpose of controlling and minimizing the effects of shock and vibration.

Claims 16, 17, 39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (U.S. Pub. 2004/0155923) in view of Kinoshita (JP 04-131267).

Ikeda et al discloses the claimed invention except for the following:

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- ***regarding claims 16, and 39***, isolator being made from a single material having multiple stiffness properties
- ***regarding claims 17, and 40***, isolator being made from an elastomeric material having at least one of a different amount of hardener, additives, air bubbles and holes located in a portion of said isolator

Kinoshita discloses:

- ***regarding claims 16, and 39***, isolator being made from a single material having multiple stiffness properties (Abstract), for the purpose of suppressing vibrations and improving print quality.
- ***regarding claims 17, and 40***, isolator being made from an elastomeric material having at least one of a different amount of hardener, additives, air bubbles and holes located in a portion of said isolator (Abstract), for the purpose of suppressing vibrations and improving print quality.

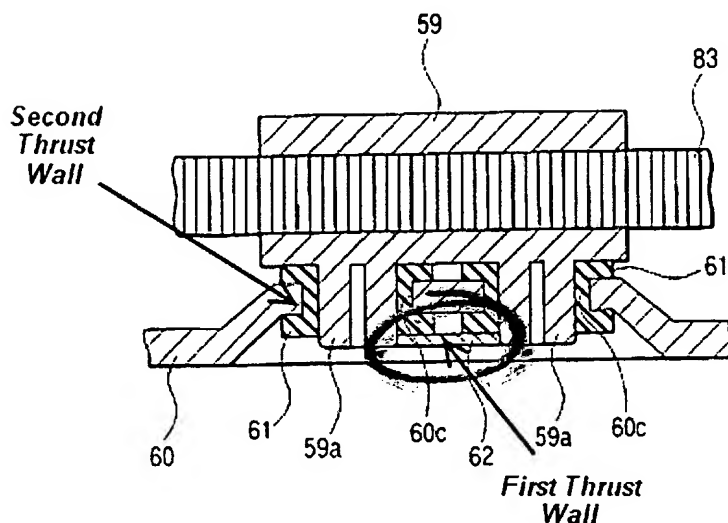
At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of isolator being made from a single material having multiple stiffness properties; isolator being made from an elastomeric material having at least one of a different amount of hardener, additives, air bubbles and holes located in a portion of said isolator as taught by Kinoshita into the device of Ikeda et al, for the purpose of suppressing vibrations and to improve print quality.

Claims 41, 42, 43, 45, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (U.S. Pub. 2003/0048325)

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Ikeda discloses:

- **regarding claim 41**, a carrier drive belt (83); a belt holder (59) attached to said carrier drive belt; an isolator (61) couple to said belt holder (Figures 3 – 5; Paragraph 0043)
- printhead carrier having a receptacle configured for mounting said isolator (61), said receptacle having a first thrust wall and a second thrust wall spaced apart from said first thrust wall along a bi-directional main scan direction of the printhead, said isolator (61) being retained between and in engagement with said first thrust wall (62) and said second thrust wall, wherein a structural geometry of said second thrust wall is different than a structural geometry of said first thrust wall (62) to adjust an amount of dampening to provide dependent filtering of vibrations propagating to said printhead carrier (Figures 3 – 5; Abstract, Paragraphs 0013, 0043, 0045, 0048)



- **regarding claim 42**, a direction toward a carrier motor (80) and a direction away from said carrier motor, second thrust wall being positioned closer to said carrier motor than first thrust wall (62) (Figure 1, 5; Paragraphs 0043, 0045)
- **regarding claim 43**, second thrust wall being shorter in length than said first thrust wall (Figures 4, 5)
- **regarding claim 45**, isolator (61) being symmetrical (Figure 6)
- **regarding claim 46**, Ikeda discloses the claimed invention except for an asymmetrical isolator. It would have been an obvious matter of design choice to make the isolator an asymmetrical shape, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Daily*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)

Response to Arguments

Applicant's arguments filed 5/30/2006 have been fully considered but they are not persuasive. Regarding claims 1, 18, 24; applicant argues that Ikeda does not disclose a damper configured to provide directionally dependent filtering of vibrations propagating to the carriage.

Ikeda discloses a damper which is an elastic member for attenuating vibrations from a driving system and making the transmission of the vibration to the carriage difficult is directly fixed to the back of the carriage, and the belt holder is mounted by a mounting member through this damper (Paragraph 0050), which discloses a

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directionally dependent filtering of vibrations as claimed. It is noted that the features upon which applicant relies (i.e., a first dampening of vibration when the carrier is moved in a first direction, and a second dampening of vibration *different from the first dampening* when the carrier is moved in a second direction) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claims 16, 17, 39, 40, the applicant argues that Kinoshita does not disclose that the isolator is made from a single material having multiple stiffness properties and an isolator made from an elastomeric material having at least one of a different amount of hardener, additives, air bubbles and holes located in a portion of the isolator.

Kinoshita discloses a material having damping properties such as elastomer or rubber-based plastic. Rubber is known to have multiple stiffness properties; these stiffness properties can be affected by an amount of hardener or additives in a portion of the isolator.

Regarding claim 41, applicant argues that Ikeda does not disclose a structure to adjust an amount of dampening in each direction along the bi-directional main scan direction to provide directionally dependent filtering of vibrations propagating to the printhead carrier.

Ikeda discloses that the attenuation effect is larger in the direction, which is not parallel to the traveling direction of the carriage, that is, more specifically, the direction

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at right angles to the traveling direction of the carriage, than the attenuation effect produced in the traveling direction of the carriage (Paragraph 0050). Ikeda states that the attenuation effect is *larger* in the direction, which is not parallel to the traveling direction of the carriage, he does not state that it is the *only* direction that attenuated, thus the attenuation effect is also produced in the traveling direction of the carriage.

Regarding claim 42, applicant argues that Ikeda does not disclose bi-directional main scan direction including a direction toward a carrier motor and a direction away from the carrier motor, the second thrust wall being positioned closer to the carrier motor than the first thrust wall.

Ikeda discloses a first and second thrust walls in figure 5, the first thrust wall is inside of the second thrust wall, thus the second thrust wall is closer to the carrier motor (80), which is located toward the side of the apparatus. (Figures 1, 5)

Applicant's arguments with respect to claims 13-17, and 36-38 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejections regarding claims 13, 15, 36, 38. They disclose an isolator being made from multiple materials having different stiffness properties, and an asymmetrical isolator and printhead carrier defining a receptacle for receiving the isolator, and the printhead carrier having a latch for engaging a latch slot formed in the isolator.

Allowable Subject Matter

Claims 2 – 12, 14, 19 – 23, and 25 – 35, 37, 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening claims.

The primary reason for the indicating allowable subject matter of claims 2 – 12 is the inclusion of the limitation of an interface device of an isolator providing a first dampening of vibration when the printhead carrier is moved in a first direction and providing a second dampening of vibration different from first dampening of vibration when said printhead carrier is transported in a second direction opposite to said first direction. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indicating allowable subject matter of claims 14, 37 is the inclusion of the limitation of an interface device of the isolator having a center of mass, and a centerline of the belt holder being spaced from the center of mass of the isolator by a distance along a main scan direction of the printhead carrier. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indicating allowable subject matter of claims 19 - 23 is the inclusion of the method step of providing a first dampening of vibration when the printhead carrier is moved in a first direction and providing a second dampening of vibration different from first dampening of vibration when said printhead carrier is transported in a second direction opposite to said first direction. It is this step found in

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each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indicating allowable subject matter claims 25 - 35 is the inclusion of the limitation of an imaging apparatus of an isolator providing a first dampening of vibration when the printhead carrier is moved in a first direction and providing a second dampening of vibration different from first dampening of vibration when said printhead carrier is transported in a second direction opposite to said first direction. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indicating allowable subject matter of claim 44 is the inclusion of the limitation of an interface device of the second thrust wall being shorter in height than the first thrust wall. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSU
August 17, 2006



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SUPERVISORY PATENT EXAMINER